What is claimed is:

1. A method of manufacturing an optical component comprising:

providing an optical waveguide with a bonding surface;

providing an optical article having a surface for bonding to the bonding surface of the optical waveguide; and

bonding the surface of the optical waveguide and the surface of the article without an adhesive and at a temperature below the softening temperature of the optical waveguide.

2. The method of claim 1, wherein the optical article includes a second optical waveguide.

3. The method of claim 2 wherein the first and second optical waveguides comprise optical fibers.

4. The method of claim 3, wherein the first and second optical waveguide fibers are disposed within ferrules and the ferrules are bonded together.

5. The method of claim 4, further including the step of contacting the bonding surface of the optical fiber waveguide and the surface of the article with a solution.

6. The method of claim 5, wherein the solution has a pH greater than 8.

7. The method of claim 6, further comprising the step of providing termination groups on the bonding surface of the optical fiber waveguide and the surface of the article.

8. The method of claim 7, wherein the termination groups are selected from the group consisting of -OH, ≡Si-OH, =Si-$(OH)_2$, -Si-$(OH)_3$ and -O-Si-$(OH)_3$, and combinations thereof.

9. The method of claim 8, wherein the bonding surface of the optical fiber waveguide includes an endface of the fiber.

10. The method of claim 1, wherein the optical article includes a photonic component selected from the group consisting of a waveguide, a planar waveguide, a grating, a filter and a lens.

11. The method of claim 1, wherein the article includes an infrared transparent material.

12. An optical component made by the method of claim 10.

13. The method of claim 2, further including the step of providing a hydrophilic surface on the bonding surface of the optical fiber and the surface of the article.

14. The method of claim 13, further including forming hydrogen bonds between the bonding surface of the optical fiber and the surface of the article.

15. The method of claim 14, further including the step of contacting the bonding surface of the optical fiber and the surface of the article with an acid.

16. The method of claim 15, further including the step of contacting bonding surface of the optical fiber and

the surface of the article with a solution having a pH greater than 8.

17. The method of claim 16, wherein the solution includes a hydroxide.

18. The method of claim 17, wherein the solution includes ammonium hydroxide.

19. The method of claim 18, further including the step of eliminating absorbed water molecules at the interface between the bonding surface of the optical fiber waveguide and surface of the article.

20. The method of claim 1, wherein the bonding step is performed at a temperature below the temperature at which any polymer present degrades and applying pressure on the bonding surfaces.

21. A method of bonding a lens array to an optical waveguide array comprising:

providing an array of optical waveguides, the waveguides having bonding surfaces;

providing a lens array having surfaces for bonding to the bonding surfaces of the optical waveguides; and

placing the surfaces of the lens array in contact with the bonding surfaces of the optical waveguides in the absence of an adhesive and below the softening temperature of the optical waveguides.

22. The method of claim 21 wherein the optical waveguides comprise optical fibers.

23. The method of claim 22, further comprising the step of contacting the bonding surface of the optical waveguide fibers and the surfaces of the lens array with a solution.

24. The method of claim 23, wherein the solution has a pH greater than 8.

25. The method of claim 24, further comprising the step of providing termination groups on the bonding surfaces of the optical waveguide fibers and the surfaces of lens array.

26. The method of claim 23, wherein the termination groups are selected from the group consisting of -OH, ≡Si-OH, $=Si-(OH)_2$, $-Si-(OH)_3$ and $-O-Si-(OH)_3$, and combinations thereof.

27. The method of claim 24, further including forming hydrogen bonds between the bonding surface of the optical fiber and the surfaces of the lens array.

28. The method of claim 27, further including the step of contacting the bonding surface of the optical waveguide fibers and the surfaces of the lens array with an acid.

29. The method of claim 28, further including the step of eliminating absorbed water molecules at the interface between the bonding surface of the optical fiber waveguide and surfaces of the lens array.

30. The method of claim 27, wherein the optical fibers are disposed in a frame including a bonding surface and

the lenses are disposed in a frame including a bonding surface, and the bonding surface of the lens frame and the bonding surface of the fiber frame are placed in contact to bond the frames together.

31. The method of claim 29, further including the step of applying pressure to the bonding surfaces during the step of placing the surfaces in contact.

32. The method of claim 31, wherein the pressure is applied with the assistance of gas pressure or a vacuum.

33. A method of manufacturing an optical component comprising:

providing at least two optical articles each having a bonding surface; and

bonding the surface of the respective optical articles to each other without an adhesive and at a temperature below the softening temperature of the optical article.

34. The method of claim 33, wherein the optical article is selected from the group consisting of a lens, prism, polarizer, grating, filter, birefringent crystal and faraday rotator.

35. The method of claim 34, further including the step of contacting the bonding surface of the optical articles with a solution.

36. The method of claim 35, wherein the solution has a pH greater than 8.

37. The method of claim 36, further comprising the step of providing termination groups on the bonding surface of the optical articles.

38. The method of claim 37, wherein the termination groups are selected from the group consisting of -OH, ≡Si-OH, $=Si-(OH)_2$, $-Si-(OH)_3$ and $-O-Si-(OH)_3$, and combinations thereof.

39. The method of claim 33, further including the step of providing a hydrophilic surface on the bonding surface of the optical articles.

40. The method of claim 39, further including forming hydrogen bonds between the bonding surface of the respective optical articles.

41. The method of claim 40, further including the step of contacting the bonding surface of the optical articles with an acid.

42. The method of claim 41, further including the step of contacting the bonding surface of the optical articles with a solution having a pH greater than 8.

43. The method of claim 42, wherein the solution includes a hydroxide.

44. The method of claim 43, wherein the solution includes ammonium hydroxide.

45. The method of claim 44, further including the step of eliminating absorbed water molecules at the interface between the bonding surfaces of the optical articles.

46. The method of claim 33, wherein the bonding step is performed at a temperature below the temperature at which any polymer present degrades and applying pressure on the bonding surfaces.